REMARKS:

This response is filed with a Request for Continued Examination (RCE) under 35 U.S.C. § 132(b). Claims 3, 5 to 7, and 9 to 28 are in the application, with claims 23 to 28 having been added. Claims 3, 7, and 22 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 3, 5 to 7, and 9 to 22 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,315,580 (Phaal). Applicants again respectfully traverse this rejection.

Advisory Action

An Advisory Action was issued in reply to Applicants' Response After Final Rejection filed March 4, 2002. The Advisory Action stated the following:

> [T]he function of the claimed subject matter sampling element is described in page 10 line 21 to page 11 line 7, where one out of every N packets is selected by the sampling element 220 for further processing by the traffic management element 120. Phaal discloses the sampling means for selecting a number of packets detected by the receive means at every "nth" packet (see col. 1 line 62 to col. 2 line 39), and a processing means for collecting and processing data from packets selected by the sampling means. It should be noted that the sample means function as a "feedback" to the processing means by transmitting the sampled packets for processing."

Applicants do not dispute the Examiner's characterization of Phaal. However, with all due respect, the foregoing is **not** what is claimed and is **not** sufficient to render the claimed invention obvious.

Claim 3: This claim recites a system that includes an input port for receiving network packets, and a sampling element for selecting a fraction of those packets for review. The sampling element includes a feedback element for adaptively altering said fraction. The system also includes a queue of selected packets, a packet-type detector coupled to said queue, and a frequency measurement element coupled to said packet-type detector. The feedback element is responsive to a length of said queue (i.e., a number of packets or amount of data in the queue).

Applicants respectfully direct the Examiner's attention to the fact that this claim requires that the feedback element is for **adaptively altering** a faction of packets for review and that the feedback element is **responsive to a length of a queue** of selected packets. Applicants have carefully studied Phaal and do not see anything in Phaal that discloses or suggests either of these features.

The mere fact that Phaal and the specification for the invention use a similar variable (i.e., "nth" and N) does not alleviate the requirement that Phaal disclose or suggest these recited claim features. In particular, Phaal does not disclose **adaptively altering** the value of n, let alone a feedback element that adaptively alters the value **responsive to a length of a queue** of selected packets.

The Advisory Action pointed to Phaal's entire Summary of the Invention in an attempt to show the claimed sampling element. This Summary never makes any mention whatsoever of **adaptive alteration** of a fraction of packets for review or of a feedback element for such adaptive alteration that is **responsive to a length of a queue**. Phaal's Detailed

Description of the Invention is likewise silent as to these features. These deficiencies are discussed at length below.

As stated in part of the portion of Phaal cited in the Advisory Action, Phaal's "sampling means may carry out its selection of packets in a deterministic manner either on the basis of selecting every nth packet (e.g., every hundredth packet) or on the basis of selecting the first packet detected after a fixed interval from the last selected packet." Phaal, col. 2, lines 17 to 22. No mention whatsoever is made of **adaptively alerting** the faction of packets sampled. No mention whatsoever is made of a feedback element for such adaptive alteration that is **responsive to a length of a queue**.

Phaal goes on to explain why this selection process might not enable a "realistic traffic matrix to be constructed." Phaal, col. 2, lines 22 to 33. As an alternative, Phaal discloses that "the sampling means preferably effects its selection of packets in a statistically random manner." Phaal, col. 2, lines 34 and 35. Phaal explains that "[s]uch a random selection can be carried out on the basis of elapsed time since the previous packet selection or on the number of packets detected by the network interface." Phaal, col. 2, lines 36 to 39. However, nothing in this discussion provides and suggestion whatsoever of **adaptively alerting** the faction of packets sampled, let alone to use a feedback element for such adaptive alteration that is **responsive to a length of a queue**.

In fact, according to Applicants' reading of Phaal, the primary place where Phaal discusses the actual fraction of packets to review is at col. 6, lines 30 to 43. The section of Phaal is reproduced below in its entirety:

> Furthermore, it will be appreciated that although in the FIG. 3 embodiment the random selection of incoming packets has been effected by storing predetermined random numbers in ROM 22, these random numbers could alternatively be generated by the processor 21 (although this is not preferred as it places extra processor requirements on the microprocessor). Preferably, the random numbers are such as to give an average skip between selected packets of ninety nine; other values may be more appropriate depending on traffic density, sampling period and acceptable statistical error level. The random selection of packets could be effected on a time basis rather than on the number of packets received.

Here, Phaal discloses that an "average skip" between selected packets preferably is ninety nine. Clearly, such a fixed "average skip" does not even remotely suggest **adaptively alerting** the faction of packets sampled, let alone to use a feedback element for such adaptive alteration that is **responsive to a length of a queue**. Phaal then discloses that "other values may be more appropriate." However, the fact that other values may be more appropriate in no way implies or suggests the concepts of **adaptive alteration** and adaptive alteration that is **responsive to a length of a queue**. Likewise, Phaal's alternative use of a time basis in no way implies or suggests the concepts of **adaptive alteration** and adaptive alteration that is **responsive to a length of a queue**.

Applicants trust that the foregoing clearly and conclusively demonstrates that Phaal fails to disclose or to suggest claim 3's feature of a feedback element that is for **adaptively altering** a faction of packets for review and that is **responsive to a length of a queue** of selected packets. Accordingly, claim 3 is believed to be allowable over Phaal, and such action is respectfully requested.

Claim 7: This claim recites a method including steps for sampling a set of packets at a network interface of a switch. The steps for sampling including steps for adaptively altering a fraction of the packets for selection. The steps for adaptively altering a fraction of the packets for selection include steps for maintaining a queue of selected packets, and altering the fraction in response to a length of the queue.

Phaal is not seen to disclose or to suggest the foregoing features of claim 7, at least with respect to **adaptively altering** a fraction of the packets for selection and altering the fraction in **response to a length of a queue** of selected packets. Accordingly, claim 7 is believed to be allowable over Phaal, and such action is respectfully requested.

Claim 22: This claim recites a system including means for collecting aggregate information about network traffic, and means for maintaining processor load relatively constant for a processor controlling the means for collecting despite substantial variation in network traffic. The means for collecting and the means for maintaining include an input port for receiving network packets, a sampling element for selecting a fraction of those packets for review, the sampling element including a feedback element for adaptively altering the fraction, a queue of selected packets, a packet-type detector coupled to the queue, and a frequency measurement element coupled to the packet-type detector. In claim 22, the feedback element is responsive to a length of the queue.

Phaal is not seen to disclose or to suggest the foregoing features of claim 22, at least with respect to **adaptively altering** a fraction of the packets for selection and altering the

fraction in **response to a length of a queue** of selected packets. Accordingly, claim 22 is believed to be allowable over Phaal, and such action is respectfully requested.

Remaining Claims: The remaining claims depend directly or indirectly from the claims discussed above and therefore are believed to be allowable over Phaal for at least the foregoing reasons. In addition, new claims 23 to 28 are believed to recite additional features that even further distinguish the invention from Phaal. Allowance of these claims is respectfully requested.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

Dated: April 20, 2002

Dane C. Butzer
Reg. No. 43,521

The Swernofsky Law Group
P.O. Box 390013
Mountain View, CA 94039-0013
(650) 947-0700

Changes to Claims

Pursuant to 37 C.F.R. § 1.121(c)(ii), changes to any claims effected by the accompanying paper are indicated below.

Claims 23 to 28 have been added.